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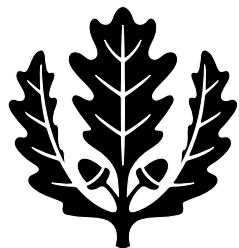
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Abstract

We investigate the case for official dollarization in a selection of Latin American countries. We argue that the monetary shock absorbers of base control, foreign exchange reserve sterilization and exchange rate policy should be retained the more volatile is a country's actual real exchange rate. Our investigation of the asymmetry of macroeconomic shocks between the USA and Latin America suggests that the time series property of the real exchange rate is likely to be one of such volatility that it is advisable to retain at least some monetary shock absorbers. The case for official dollarization is further weakened by the unlikelihood of international agreements to accommodate Federal Reserve management of the dollar base to Latin American requirements.

Journal of Economic Literature Classification: E5, F3

Keywords: dollarization, exchange rate regimes, monetary policy, Latin America.

Introduction

The possible official replacement of the national currency by the US dollar in several Latin American countries including Argentina, Uruguay, Chile, Brazil and Ecuador - and perhaps in the whole of Latin America - remains on the policy agenda. This policy of *official dollarization* is largely justified by the claim that neither the pure floating of a national currency against the US dollar nor pegging under various currency arrangements including the currency board are workable. Hence, so the argument goes, why not adopt a common currency, the US dollar - and thereby never have to worry about exchange rate policy again? Unfortunately, such a policy could involve serious macroeconomic and resource allocation costs. As the *nominal* exchange rate is an important means of adjusting the *real* exchange to its equilibrium level it should not be given up lightly.

The real exchange rate is also a crucial price because it determines the relative price of nontraded to traded goods. Yet, even as a relative price, it may be affected by macroeconomic events that shock relative national price levels. It is the intimacy of this relationship between the real exchange rate in the resource allocation process and its simultaneous determination as a macroeconomic phenomenon that make the choice of an exchange rate regime so crucial.

We distinguish between the *equilibrium* and the *actual* real exchange rate and assert that the equilibrium real exchange is unlikely to be a volatile time series, but that this is not necessarily true of the actual real exchange rate. Trends in the equilibrium real exchange rate reflect changes in the equilibrium allocation of resources between nontraded and

traded goods and are caused by long-run trends in things such as productivity growth, and consumer and governmental consumption preferences. An example of this process is the Balassa-Samuelson theorem that asserts that the real exchange rate of a low-income country will appreciate as productivity in its traded goods sector increases relative to that in rich countries. Such productivity trends are more-or-less bound to be long-run phenomenon.

However, the time series properties of the actual real exchange rate may be strongly influenced by changes in comparative national price levels and this is especially true if the nominal exchange rate is pegged or fixed in some way. In other words, considering a pair of countries macroeconomic shocks to the price level of just one of them will *per force* also alter the actual real exchange rate setting off processes of resource reallocation in both of them even though the equilibrium real exchange rate has not changed.

Hence, if a country's actual and equilibrium real exchange rates are not to diverge by much from each other macroeconomic shocks to national price levels, especially from the side of aggregate demand, need to be symmetric between countries. This is also true of shocks to aggregate supply. It is understood that asymmetric supply shocks (say, faster productivity growth in one of the countries) also changes the equilibrium real exchange rate. But the process of change will be more painful if adjustment in the actual real exchange rate has to be through price-level deflation in the other country, rather than by nominal exchange rate depreciation.

This conclusion mainly rests on our finding using recent historical data that the Latin American countries that we investigate do not form a compatible currency area with the USA. On the basis of our evidence we judge that what would amount to a currency union with the USA will come under severe strains. To be perfectly clear what is investigated in this paper is whether official dollarization *could work*? We are *not* investigating the matter of the optimal inflation rate in the Latin American context, nor even the effect of an officially dollarized domestic monetary regime on inflation expectations. But our findings do relate to the credibility of monetary regime choice. Indeed, one implication of our findings is that official dollarization is rather unlikely to be regarded by agents as a credible commitment because of the strong likelihood that the actual and equilibrium real exchange rates would sooner, rather than later, diverge. Put differently, our findings on the asymmetry of shocks between our sample countries and the USA suggest that the political resolve to commit to official dollarization would be sorely tested. Only if one could say with some confidence that the political leaderships could ride out the ensuing economic storms would it be worthwhile analyzing official dollarization and the choice of an optimal inflation rate in a cost-benefit framework. But in our judgment this is to put the cart before the proverbial horse because we are doubtful that official dollarization should even be attempted because it is doubtful that it could work.

We proceed to analyze the case for official dollarization in Latin America as follows. In section 1 we introduce a monetary model of the exchange rate in which various exchange rate regimes are nested showing how each one copes with shocks to the real exchange rate. In section 2 we use recently developed theoretical techniques to discover if

macroeconomic shocks are likely adversely to affect the actual real exchange rate. Then in section 3 we evaluate various costs and benefits that have been identified outside of the general equilibrium context developed here. Our main conclusion, stated in section 4, is that on the basis of the economic evidence the Latin American countries that we have investigated are *not* yet suitable candidates for official dollarization.

1: A nested model of monetary shock absorbers

We develop a monetary model of the foreign exchange market where a country's money base is composed of the domestic and foreign assets of the central bank. On the side of the demand for money a Cagan style money demand function is used - making money demand in country j equal to $P_j Y_j^{\beta_j} \exp(-\alpha_j i_j)$. Assuming continuous money market equilibrium and following Girton and Roper (1977), some manipulation yields:

$$f - f^* + e = -d + d^* + \beta y - \beta^* y^* + q - \alpha i' - \alpha^* i'^* \quad (1)$$

All variables are in rates of change. f is the rate of change of foreign exchange reserves, e the rate of change of the nominal exchange rate (dollars per unit of domestic currency), d the rate of change in the domestic component of the reserve base, y is the rate of change in real GDP, q the rate of change in the real exchange rate (in natural logs $e + p - p^*$ where p is the domestic inflation rate), i' is the rate of change of the rate of interest, β is the income elasticity of demand for money and α is the interest rate coefficient. An asterisk signifies a foreign (US) variable.

The left hand side of equation (1) is exchange market pressure (a reduction in its level signifying greater exchange market pressure as the rate of increase in foreign exchange

reserves or the rate of appreciation of the nominal exchange rate is lowered). Thus, in a *pure float* $f = f^* = 0$ and the exchange rate is determined. If the exchange rate is *pegged within a fluctuation band* (the usual practice with pegged exchange rates), then f and e may share in absorbing exchange market pressure.

A degree of freedom is lost with a *currency board*, taking the practice to be the setting of a rigid exchange rate – as Argentina has since 1991 – and $e = 0$. Furthermore, domestic credit expansion, d , under a 'pure' currency board is ruled out, so that $d = 0$. Hence under a currency board we get:

$$f - f^* = d^* + \beta y - \beta^* y^* + q - \alpha i' - \alpha^* i^{*'} \quad (2)$$

Thus, American domestic credit expansion (DCE), $d^* > 0$, determines the rate of change of foreign exchange reserves and, therefore, the money base in the currency board country.

The dependency of a Latin American country's domestic money base on American DCE could be rather volatile and not only because d^* might not behave itself. Rather volatility might arise from the behavior of inflation expectations in the US itself. Thus, an increase in d^* from a zero rate of change could show up in a reduction in $i^{*'}$ due to a liquidity effect on American interest rates. In this case, an increase in American money demand (due to the reduced $i^{*'}$) would absorb some or all of the increase in d^* so cushioning the effect of faster DCE by the Federal Reserve on monetary conditions in Argentina and other currency board countries. However, if positive DCE in the US led to heightened

expectations of US inflation, the expectations effect on American interest rates would be to increase i^* . In this case a rise in d^* simultaneously with $i^{*'}$ would be to *magnify* the effect of faster American DCE on monetary conditions in the currency board country.

With *official dollarization*, so that the domestic currency is entirely replaced by the US dollar, bilateral foreign exchange reserves are eliminated, $f = 0$. Also, $d = 0$ as there is no independent domestic central bank. Now we have

$$0 = d^* + \beta y - \beta^* y^* + q - \alpha i' - \alpha^* i^{*'} \quad (3)$$

What is the effect of $d^* > 0$ on the dependent dollarized country? If we were to assume the long-run neutrality of money then, when d^* eventually returns to zero, or, rather, its long-run trend, all real and interest rate variables will also return to zero. In the long-run all that will have happened is that the domestic price level will have risen.

More relevant is the consequences of $d^* > 0$ for the dollarized country in the short-run, i.e., in the absence of money neutrality. With an eye on equation (3), and assuming y^* exogenous in the short-run, these consequences can be categorized as follows:

- i) q falls, meaning real exchange rate depreciation, worsening terms of trade and living standards, and resource reallocation into traded goods in the dependent dollarized country. Or,

- ii) an increase in income growth, y , in the dollarized country, perhaps because US residents spend some of their excess monetary balances there. (This may or may not be welcome depending on the state of the business cycle). Or,
- iii) on the monetary side, i^* rises relative to the dollarized country's interest rate – due to an expected US inflation effect. This requires less than perfect capital mobility between the two countries - which is probably more doubtful under official dollarization than under a currency board because the two countries now have one and the same currency.

The point is that monetary expansion in the US, if not absorbed in the US, can have possibly deleterious real effects in the dollarized country.

This conclusion is hardly affected in a system of *unofficial dollarization*. Thus, suppose, as is typical of several Latin American countries, that the ratio of US dollars to pesos (or whatever the local currency is called) in the domestic money stock is high. Then it is reasonable to suppose that currency substitution is sensitive, perhaps quite highly so, to interest rate differentials between the dollar and the peso. If so, the interest rate shock absorber, $i' - i^*$ is largely lost. Thus, lower dollar interest rates cause substitution into peso denominated assets and, therefore, a fall in local interest rates as well. Therefore, the dependence of local on US interest rates is more-or-less the same under unofficial and official dollarization.

Furthermore, unofficial dollarization is often paired with a floating exchange rate because the fact of currency substitution makes pegging the exchange rate a problematical exercise. Hence, external monetary shocks will impact the exchange rate and, while the exchange rate can act as a shock absorber in the short-run, there may well be deleterious real economic effects stemming from this. Calvo, Leiderman, and Reinhart (1993) find that variations in US interest rates account for roughly fifty percent of the variance in Latin American real exchange rates between 1988 and 1992.

Notwithstanding problems with official dollarization, it is probably because of the combination of unofficial dollarization and volatile domestic currency interest rates and exchange rate that make official dollarization an attractive proposition. Official dollarization also became more attractive as a policy in early-2000 because the combination in Argentina of a currency board with unofficial dollarization did not save the peso from speculative attack in late-1994 (Mexican financial crisis), 1997 (East Asian crisis) or 1998 (Russian financial crisis).

Problems also arise if there are *shocks to q* , the real exchange rate. It is helpful to recall that real exchange rate is equal to the relative price of nontraded goods measured in terms of traded goods. Now a lower q is interpreted as a rise in the relative price of traded goods, which will lead to a reallocation of production into traded goods and, if the substitution effect dominates the income effect, to a reallocation of consumption out of traded goods. In other words, shocks to the real exchange rate can have important effects

on resource allocation, and given price stickiness, the level of sectoral and macroeconomic activity.

Now, write equation (3) as:

$$-d^* - \beta y + \beta^* y^* + \alpha i' + \alpha^* i^{*'} = q \quad (4)$$

And taking the starred variables as exogenous as well as assuming high capital mobility (so that $i' = i^{*}$), the latter equation reduces to

$$-\beta y = q \quad (5)$$

Thus, shocks to the real exchange rate are transferred into shocks to real income in the dollarized country.

As we have previously argued, the behavior of macroeconomic shocks - whether symmetric (so moving price levels in the same direction and leaving the actual real exchange rate alone), or, asymmetric (so shocking the actual real rate) - is crucial in the choice of monetary regime. The more asymmetric are shocks the greater is the benefit of retaining the monetary shock absorbers - d, e and f (the latter under sterilized intervention). In the following section we present some evidence on the asymmetry of demand and supply shocks in important North and South American countries during the 1990s.

2: Estimating macroeconomic shocks: US versus Latin America

We use quarterly data on GDP and consumer prices over the period 1990-1998 for the US, Canada, Mexico (jointly, NAFTA), Argentina, Brazil and Uruguay (the three major economies of Mercosur), together with Chile and Peru. Brazilian GDP figures were obtained from the central bank of Brazil. All other data are from the International Monetary Fund's International Financial Statistics publications. Table 1 gives some descriptive statistics.

Table 1
Means, standard deviations and correlations of GDP growth and CPI inflation
1990Q1-1998Q4

	GDP growth			CPI inflation		
	Mean	Std. Dev.	Correlation with US	Mean	Std. Dev.	Correlation with US
US	0.642	0.577	1.000	0.734	0.342	1.000
Canada	0.511	0.665	0.685	0.516	0.587	0.519
Mexico	0.816	5.264	0.040	4.655	3.072	0.254
Argentina	1.112	6.419	-0.060	10.647	26.917	0.530
Brazil	0.594	4.737	0.023	34.368	35.150	0.274
Chile	1.667	4.860	0.026	2.768	1.813	0.661
Peru	0.933	8.509	0.091	15.737	33.530	0.804
Uruguay	0.852	7.756	0.033	9.647	5.653	0.752

These unprocessed data suggest that the ground for dollarization is rather stony. Mean GDP growth rates across Latin America may not be too far removed from North American levels but the standard deviations of growth are an order of magnitude larger, and correlations with the US are tiny. Inflation rates are even less supportive of integration with standard deviations in certain countries *two* orders of magnitude larger than in the US.

However, no matter how different the profiles of Latin American countries and the US may appear from this table, this merely shows that economies have behaved differently over the decade. It does not show whether this was due to the enactment of different policies, for example, or due to different shocks impinging on the economies. To reveal the shocks, some econometric modelling is required.

Bayoumi (1992) and Bayoumi and Eichengreen (1993a and 1993b) extend the structural vector autoregressive (SVAR) technique of Blanchard and Quah (1989) such that the imposition of some relatively uncontroversial restrictions on a bivariate system can reveal the underlying shocks. This approach is well documented in these and other papers and will not be detailed here. Rather, a few points suffice.

The model is based on the textbook aggregate demand and aggregate supply model, defined across the price level (we use CPIs) and output (GDP). A positive demand shock is constrained to have no long run effect on output, but will raise prices. A positive supply shock will raise output and reduce prices. In vector notation, the evolution of log differences of output (y) and prices (p) is represented by an infinite moving average system of shocks

$$X_t = \begin{bmatrix} \Delta y_t \\ \Delta p_t \end{bmatrix} = \sum_{m=0}^{\infty} L^m \begin{bmatrix} a_m^{11} & a_m^{12} \\ a_m^{21} & a_m^{22} \end{bmatrix} \begin{bmatrix} \varepsilon_t^d \\ \varepsilon_t^s \end{bmatrix} \quad (6)$$

where L is the lag operator and the ε terms are the independent, unobservable shocks identified by superscripts as either demand or supply. Following the AS-AD model

framework demand shocks have only temporary impacts on output, which implies the following restriction:

$$\sum_{m=0}^{\infty} a_m^{11} = 0.$$

The system is modeled as a finite-ordered bivariate VAR with vector of residuals e_t .

Bayoumi (1992) shows that the shocks of interest can be backed out of these estimated residuals by imposing the AS-AD restriction from above, together with two normalizing restrictions that define the variance of the shocks, and the assumption that the shocks are orthogonal. Estimating fourth-order VARs for each country, with these four restrictions imposed, provides time series estimates of the shocks ε^d and ε^s . Descriptive statistics of these series are given in Table 2.

Table 2

Standard deviations and correlations of demand and supply shocks
1990Q1-1998Q4

Demand shocks								
	US	Canada	Mexico	Argentina	Brazil	Chile	Uruguay	Peru
US	0.118							
Canada	0.258	0.217						
Mexico	0.086	0.224	2.204					
Argentina	0.116	-0.140	-0.151	0.885				
Brazil	-0.281	-0.263	-0.023	-0.129	7.830			
Chile	-0.121	-0.167	-0.276	0.267	0.100	0.408		
Uruguay	0.175	0.199	0.054	-0.091	-0.016	-0.452	0.584	
Peru	0.041	0.011	-0.103	-0.004	0.229	0.049	0.351	1.536
Supply Shocks								
	US	Canada	Mexico	Argentina	Brazil	Chile	Uruguay	Peru
US	0.317							
Canada	0.456	0.366						
Mexico	0.455	0.429	1.011					
Argentina	0.557	0.437	0.076	1.740				
Brazil	0.004	0.072	-0.519	0.169	0.528			
Chile	-0.357	-0.156	-0.237	-0.239	0.387	1.298		
Uruguay	-0.002	0.302	0.197	-0.168	0.156	0.041	2.192	
Peru	-0.273	0.071	0.127	-0.055	0.158	0.315	-0.032	2.417

The figures on the leading diagonals are the standard deviation of the estimated demand and supply shocks. The other figures are the correlations of these time series of shocks.

Without dwelling unduly on these figures, it is clear that the standard deviations of the two type of shocks differ markedly across these countries, and that in many cases the correlation of the shocks with those seen in the US are low or in some cases negative. The NAFTA countries display a reasonably high correlation with regards to supply shocks but only Canada and the US appear to have faced similar demand shocks in the last decade.

As a benchmark against which these figures can be judged, we calculate that the aggregate demand and supply shock correlations between the two key European Monetary Union countries, France and Germany, were -0.02 and 0.31 respectively over the same period. Obviously, the discussion of whether Europe was correct in moving to a single currency is still hotly debated, but based on these figures few of the South American countries are as supply-side integrated with the US as France is with Germany. The exception is Argentina, which is the most highly correlated country with the US in terms of supply shocks (0.56) and not unreasonably correlated in terms of demand shocks (0.12).

Correlation is only part of the story, however. The Bayoumi and Eichengreen methodology allows the magnitudes of the shocks to be compared. These are revealed by the standard deviations of the demand and supply shocks, given down the leading diagonals of the panels in Table 2. The relative stability of the US and Canadian economies is apparent from the low dispersion of shocks. The South American nations are much more volatile, sometimes by an order of magnitude. Despite the reasonably

high correlations between Argentine and US shocks, the ratios of standard deviations of demand and supply shocks are 5.5 and 7.5, respectively. As benchmarks, the Canadian-US demand and supply shock ratios are 1.9 and 1.1, and the German-French ratios are 1.0 and 2.2. While Argentine-US shocks may be correlated they are still of highly asymmetric magnitudes, and most of the other South American countries are noticeably less integrated with the US economy. One outlier is Chile. This economy seems to have been reasonably stable over the period covered, particularly with respect to demand shocks. However, the shocks it has been subject to are *negatively* correlated with those hitting the US – stability in Chile has not been due to integration with the US.

3: Some other possible benefits and costs of dollarization

It ought to be recognized that two major sources of costs to dollarization beyond the lost ability to use monetary stabilizers have been highlighted in the literature. First, the dollarizing country loses seigniorage revenue. Second, the lender of last resort powers of the central bank are compromised. The two main benefits of dollarization are first the reduced devaluation risk premium that derives from the supposed elimination of devaluation risk and, second, the exchange rate transactions cost savings. It is to a brief discussion of these costs and benefits that we now turn.

Velde and Veracierto (1999) estimate the only cost of dollarization to be the lost seigniorage on Argentine foreign exchange reserves (which currently earn interest in the US) once these have been turned into Federal Reserve notes for circulation in Argentina. This cost is put at only 0.2% p.a. of Argentine GDP (Schmitt-Grohe and Uribe, 1999,

express the present discounted value of seigniorage loss as twice the country's pre-dollarization monetary base).

The benefit, Velde and Veracierto suggest, is the avoidance of lost output when interest rates are raised to defend the peso when it is under speculative attack. The so called 'tequila effect' - a sharp rise in the risk premium of Argentine versus American short-term interest rates - hit the peso in 1995 following the Mexican bailout, again in 1997 during the Asian financial crisis, and yet again in 1998 following the Russian financial crisis. Velde and Veracierto assume that macroeconomic fundamentals in Argentina were sound so that the speculative attack on the peso was an unjustified contagion from financial events in distant countries. The sharp rise in Argentine interest rates then led to estimated permanent losses of about 14% of Argentine GDP. They calculate that policy indifference between continuing with the currency board and dollarization occurs with very low probability of speculative attack - only 1.4% within a year - implying a much lower frequency than in actuality. Velde and Veracierto conclude therefore that the case for dollarization in Argentina is very strong.

However, despite the clear dominance of benefits over costs the Velde and Veracierto approach is by no means clear-cut. For one thing they rather questionably ignore any potential costs from the loss of an independent monetary policy when macroeconomic shocks are asymmetric. Furthermore, whether the currency risk premium does fall, or, rather, fails to rise when other countries are under speculative currency attack, depends, according to Spiegel (1999), upon the trade-off between currency risk and default risk. Both currency risk and default are components in the interest rate differential (risk

premium) between Argentine and US short-term interest rates. Spiegel argues that default risk could increase even if currency risk does fall due to the loss of the lender of last resort facility, which could reduce the liquidity of the Argentine banking system, so inducing capital flight. Recourse to capital export controls might then be chosen to maintain liquidity, and this threat would be reflected in a default risk premium. Thus, on this view the crucial element is the possible lack a safety net associated with the lender of last resort activity and limited central bank flexibility.

But Velde and Veracierto (1999) and Altig and Humpage (1999) counter, arguing that some degree of freedom in monetary policy would remain after even after official dollarization. Thus, the Argentine central bank could hold excess dollar reserves (as it currently does), and these will be complimented by the buildup of the deposit insurance fund (instituted in 1995). Also a shortage of money base in Argentina might be relieved by downward variation in the required reserve ratio. (But this might be seen as raising default risk in the banking system). Moreover, the Contingent Repurchase Facility - set up in 1996 with foreign banks - allows Argentina temporarily to borrow reserves from these banks. To the extent that these facilities are effective, the lender of last resort ability remains in tact (see also Calvo, 1999 and 2001).

In a different paper two of us studied the effectiveness of the privatization of the lender of last resort function – the Morgan-Belmont syndicate in 1895 in the US (Hallwood, MacDonald and Marsh, 2000). Our finding, though inclusive in a statistical sense, is somewhat supportive of the conclusion that the private syndicate did indeed 'save the dollar' when it was under speculative attack for political reasons rather than for reasons of

misaligned macroeconomic fundamentals. Even so, the ultimate response 18 years later by the US to cope with successive financial crises was to establish its own central bank - and not to do away with one as would be the case with dollarization.

Another benefit of official dollarization identified by Research Group (1999) is that by taking monetary policy out of the hands of domestic decision-makers it would likely reduce inflation expectations and ease the way to a lower rate of inflation. In other words, dollarization is a means of buying policy credibility. This argument was frequently aired in the 1980s and 1990s with respect to the UK and Italy joining the European Monetary System and, later, European Monetary Union. The same argument can be deployed against it - that handing over monetary policy to an outside interest may not be beneficial when macroeconomic shocks are asymmetric. Moreover, as Research Group itself says, dollarization might not be the correct policy if the US does not remain as a low inflation country.

Still another benefit acknowledged by Research Group (1999) is that the adoption of a common currency - the US dollar - will reduce transaction costs in international trade. But again this benefit must be qualified. For one thing not much of Argentina's foreign trade is with the US, most of it is with other Mercosur countries. Hence, a go-it-alone policy by Argentina is unlikely to reduce transaction costs by very much without a substantial refocusing of Argentine trade.

We will end this review of other costs and benefits of dollarization with two further observations. *First*, as official dollarization is not irreversible, if a severe economic

recession were to hit a dollarized country, interest rate risk premiums could still rise sharply if financial markets think that there was some chance that the policy would be reversed. Though not exactly comparable to official dollarization, the experience of Argentina (with its long-standing currency board) through its three-year recession - at least to April 2001 - is a possible case in point. By this latter date, the excess of Argentine dollar-denominated Treasuries over comparable US Treasuries rose to exceed 900 basis points. A possible explanation for this substantial risk premium is that the markets feared an Argentine debt default, possibly in association with rejection of the currency board regime - a view also supported by the 10.5% discount on the peso in the forward market.

Secondly, we think that if the asymmetry of the shocks that we have revealed between various Latin American countries and the US were to continue after an official dollarization the benefits identified above may seem only to be short-term in nature. In a longer-run context it is worth mentioning that under the Bretton Woods system Western Europe adopted the US dollar as an expedient to economize on the cost of accumulating gold reserves. But that some members of the dollar zone eventually found that the cost of that economy was too high because the US chose monetary and macroeconomic policies to suit itself rather than the international system as a whole.

Thus, it is our opinion that it is difficult to make the argument that the supposed additional benefits, with their associated costs, identified in this section are enough to overcome the costs that are likely to stem from the asymmetric aggregate demand and supply shocks identified in section 2.

A recent paper lends support to our argument by comparing the performance of different policy choices when applied to the Mexican case. Schmitt-Grohe and Uribe, 2001, estimate the welfare costs of Mexican business cycles under alternative monetary / exchange rate policy regimes. Unfortunately, their regimes do not match exactly with ours but a clear conclusion emerges. Their optimal policy is a devaluation rate rule with specified (but sometimes “hyperactive”) responses to US interest rates, terms of trade and import costs. To leave consumers as well off as under the optimal regime, dollarization would have to increase consumption by more than one-fourth of one percent at every date and state. More reasonable alternatives, including inflation targeting, money growth pegs and less hyperactive devaluation rate rules, are more preferable than dollarization by around one-tenth of one percent of steady state consumption precisely because they allow for nominal depreciation in response to adverse US interest rate shocks.

4: Conclusions

We have argued that in the succession from pure floating at one extreme to official dollarization (where the domestic currency is given up) at the other, monetary shock absorbers are successively eliminated. Thus with official dollarization, shocks to the actual real exchange rate compared with the equilibrium rate are likely to have deleterious economic effects on a Latin American country's real GDP, rate of inflation and microeconomic resource allocation.

Our econometric investigation of the asymmetry of aggregate supply and demand shocks has uncovered evidence that is not at all supportive of the case for dollarization. Rather,

our findings support the case for the retention of some monetary shock absorbers. In this context the currency board system would seem to be superior to dollarization because, in practice, if a country holds excess foreign exchange reserves, it can to some extent manage the domestic money base through sterilization of reserve flows.

Under circumstances of significant asymmetric shocks, dollarization would be a more favored regime if the dollarized Latin American countries could negotiate some sort of effective influence over Federal Reserve monetary policy. If so, US monetary conditions could be more closely regulated to suit the dollar zone as a whole. There are distinct shades of the 1960s when, under Bretton Woods, the Europeans complained that the Federal Reserve took little or no notice of their monetary conditions. This was a problem that contributed to the ultimate destruction of that system. According to Research Group (1999), the accommodation of Federal Reserve policy to the needs of Latin American monetary conditions is unlikely as it would compromise the Federal Reserve in acting to use monetary variables to cushion shocks to the US economy. Also, access to the Federal Funds market by Latin American commercial banks or other financial institutions is an unlikely palliative. Again there are costs for the US in that at the very least the Federal Reserve would wish to extend regulation to Latin American banks just as it does to the domestic member banks. In the absence of other ideas this would appear to leave only correspondent relationships between domestic and foreign banks for short-term dollar loans such as have been negotiated by Argentina. Unfortunately, such lines of credit are limited in amount, subject to market price fluctuations as market conditions change, and anyway fall short of the lender of last resort function.

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